

Reducing Water Losses in Pacific Island Water Utilities

Water Demand Management (WDM) Programme for Pacific Island Countries

Why?

Globally, many utilities have problems meeting continuously increasing demand for water partly because large amounts of water are lost through leakage – Pacific utilities are no different.

The key towards sustainability is the sound management of water already available.

This is a **demand management approach** - optimising use of existing water resources and infrastructure.



WDM Programme

Initial focus is on six countries: Cook Islands, Federated States of Micronesia, Marshall Islands, Niue, Solomon Islands and Vanuatu.

Metering and logging of system flow and pressure (found to be lacking in the Pacific) is vital and allows creation of a water balance – a key tool to improve system efficiency and reduce water loss.

Demand management offers significant benefits to both customers and utilities, including energy and financial savings, higher level service, improved water quality and a deferred need for substantial investment.



OVERARCHING GOAL
Sustainable access to safe drinking water for communities in Pacific Island countries

OBJECTIVE
Improved capacity for water demand management in Pacific urban water utilities

OUTPUT

- Water demand management teams established, trained and functioning with increased capacity within each participating utility
- System loss management plans for individual utilities developed and implemented
- Experience of successful water demand management initiatives promoted and shared between utilities

Key Utility Benefit: Reduction in Operating Costs

Niue

A Niue System Loss Management Plan has been developed.

Bulk flow meters are installed on all reservoir outlets and production bores. System is sectorised into District Metered Areas.



Annual Water Supply	274 ML
Annual electricity cost per ML supplied	NZ\$ 379.56
Potential Savings from Active Leakage Control*	52 ML
Potential Annual Financial Savings	NZ\$19,737

*Based on reducing current annual real losses by 50%.

Awareness and education programs have been conducted in schools and communities.

An ongoing active leak detection programme is underway with estimated potential savings of approx. NZ\$20,000 annually.

Vanuatu: Luganville



A water balance and draft System Loss Management Plan have been developed. Least-cost options for reducing water losses were identified, which will be implemented as next steps:

- Installation of Pressure Reduction Valves (PRVs) to reduce system pressure, leakage, mains and service bursts.
- Installation of bulk meters to allow adequate system monitoring (and creation of District Metered Areas).



Reducing average system pressure will result in an estimated financial saving from 17% to 35% annually through reducing electricity consumption for pumping.